

REMARKS

Claims 1-23, 25, and 29-31 are pending in the present application. In the Office Action mailed July 6, 2009, the Examiner rejected claims 13, 21-23, 25, and 29-31 under 35 U.S.C. §251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based.

Claims 1-12 and 14-19 are indicated as allowed. The Examiner was silent as to the status of claim 20, but Applicant believes that claim 20 is also allowed based on its dependence from allowed claim 14 and because the Examiner did not reject claim 20 under 35 U.S.C. §251.

Claims 6, 11, 14, 23, 25, 30, and 31 have been amended herein. Claims 32 and 33 have been newly added. As per 37 CFR §1.173, the claims are presented without strike-through. However, to assist in examination of the amended claims, Applicant has attached hereto, as Appendix A, a marked-up version of the claims.

Filed herewith is a Supplemental IDS citing a “Hanomag” reference from U.S. Pat. 5,687,799 and other “Hanomag” brochures.

Claim Amendments - Claims 6, 10 and 14

While the Examiner had indicated that independent claims 6 and 14 are allowed, Applicant has nonetheless elected to amend claims 6 and 14 to further define the invention.

Claim 6 has been amended to call for, in part, “a plurality of compactor wheel cleats circumferentially spaced on, transversely spaced across, and mounted to the face of said rim in a given orientation,” and “an axle guard system comprising at least one circumferential barrier extending above said face and adjacent said inner circumferential edge of said rim absent any of the cleats in the given orientation, wherein said compactor wheel is suitable for supporting the body of a compaction machine.” *See claim 6*, (emphasis added). Support for this amendment can be found in FIGS. 7A-7C and 8A of Applicant’s Specification and U.S. Patent 5,769,507 (the ‘507 Patent). As the Examiner had indicated that claim 6 was allowed, Applicant believes that since the claim amendment is not a broadening amendment, amended claim 6 is still in condition for allowance.

Regarding claim 14, Applicant has elected to amend the claim to further define the invention. In particular, claim 14 has been amended to call for, in part, “an axle guard system comprising a circumferential barrier extending above said face and adjacent said inner circumferential edge of said rim, wherein the circumferential barrier has an outer circumferential edge that is consistently perpendicular to the axle.” *See claim 14*, (emphasis added). Support

for this amendment can again be found in FIGS. 7A-7C and 8A of Applicant's Specification and the '507 Patent. As with claim 6 above, the amendments made herein to claim 14 further define the invention and do not broaden the claim, and no allegedly surrendered subject matter was omitted. Accordingly, Applicant believes that claim 14 is still in condition for allowance, together with all claims dependent therefrom.

Claim Rejections under 35 U.S.C. §251

Claims 13, 21, 23, 25, and 30

The Examiner rejected claims 13, 21-23, 25, and 29-31 under 35 U.S.C. §251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. Specifically, with respect to claims 13, 21, 23, 25, and 30, the Examiner argued that the claims were "broadened to exclude subject matter that was surrendered in the original application," and that "the limitation of the axle guard system including a 'cleat-free area' which extends widthwise from the inner edge of the rim 'at least about the width of one of said cleats' is not present in the claims." *Office Action*, July 6, 2009, p.

2. In regard to the axle guard system, the Examiner further stated that:

During prosecution of the original patent this limitation was argued as defining over the references of record. See the Remarks filed with the amendments of August 7, 1997 and December 16, 2007 in which it is argued that "none of the references of record disclose, teach, or suggest a compaction wheel having an axle guard system, as taught by the present specification." The "axle guard system" in this instance is defined by the last three lines of claim 1. Any reissue claims broadened by deleting limitations from these last three lines is improper recapture of subject matter surrendered in the application of the original patent.

Office Action, supra at 2-3. While Applicant recognizes that the Remarks filed with the amendments of August 7, 1997 and December 16, 1997 for the '507 Patent were accurately quoted by the Examiner, Applicant disagrees with the Examiner's contention that these Remarks amount to a surrender, or disclaimer, of an axle guard system including anything other than "a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge at least about the width of one of said cleats," as is called for in claim 1 of the '507 Patent.

As the Examiner demonstrated, Applicant's Remarks filed August 7, 1997 stated that "[n]one of the references of record disclose, teach, or suggest a compaction wheel having an axle guard system, as taught by the present specification." *Response to Office Action for U.S. App. 08/732,901*, August 7, 1997, p. 3, (emphasis added). Thus, Applicant effectively argued that the limitation of an axle guard system according to the specification of U.S. App. 08/732,901 (now the '507 Patent) was not disclosed, taught, or suggested in the prior art of record, and thus the claims should be allowable. The Examiner, on the other hand, alleged that "the axle guard system' in this instance is defined by the last three lines of claim 1," and that "deleting limitations from these last three lines is improper recapture of subject matter surrendered in the application of the original patent." *Office Action*, supra at 3, (emphasis added). However, Applicant never argued that the limitations of the last three lines of claim 1 themselves made the claim(s) allowable over the prior art. Instead, Applicant merely argued that the prior art of record did not teach an axle guard system according to the specification. See *Response*, August 7, 1997, supra. Applicant's specification shows several different embodiments having different axle guard system configurations, and the axle guard system is therefore not limited to the limitations set forth in the last three lines of claim 1, as suggested by the Examiner. Thus, the Examiner is improperly including specific limitations (i.e., the limitations of the last three lines of claim 1) that were never argued or relied upon by Applicant during prosecution of the '507 Patent to reject claims 13, 21-23, 25, and 29-31 under 35 U.S.C. §251.

While MPEP §1412.02 does state that an applicant's arguments alone may constitute surrender of a given limitation to form the basis for impermissible recapture, Applicant's arguments made in the August 7, 1997 and December 16, 1997 Remarks do not qualify as surrender of the limitations set forth in the last three lines of claim 1. In fact, MPEP §1412.02 provides an example as to what can be considered impermissible recapture of a surrendered limitation, and it can easily be seen that Applicant's omission of the limitations set forth in the last three lines of claim 1 do not fall under the scope of this example. Specifically, MPEP §1412.02 states:

For example, assume that limitation A of the patent claims is omitted in the reissue claims. This omission provides a broadening aspect in the reissue claims, as compared to the claims of the patent. If the omitted limitation A was argued in the original application to make the application claims allowable over the art in the application, then the omitted limitation relates to subject matter previously surrendered in the original application, and recapture will exist.

MPEP §1412.02(I)(B)(2). In regard to claim 1 of Applicant's '507 Patent, the omitted limitation (i.e., "limitation A" in the above example) in the subsequent Reissue claims 13, 21, 23, 25, and 30 is the cleat-free area extending widthwise "at least about the width of one of said cleats." To adhere to the guidelines of MPEP §1412.02 and the above example regarding the surrender of subject matter, Applicant would have had to specifically argue that the cleat-free area extending widthwise "at least about the width of one of said cleats" was what made the application claims allowable over the art of record. However, the prosecution history of the '507 Patent clearly shows that Applicant never argued that the cleat-free area extending widthwise "at least about the width of one of said cleats" was the limitation that rendered the claim allowable over the art of record. Instead, Applicant merely argued that "an axle guard system, as taught by the present specification" was one of the limitations that defined the invention over the prior art. Thus, Applicant did not surrender the subject matter pertaining to the cleat-free area, as suggested by the Examiner, and impermissible recapture for this reason does not exist for claims 13, 21, 23, 25, and 30. Any other interpretation would render broadening reissues extinct.

Applicant also wishes to draw the Examiner's attention to the court's ruling in *North American Container, Inc. v. Plastipak Packaging, Inc.* (hereinafter "*North American Container*"), from which the current "Three Step Test for Recapture" set forth in MPEP §1412.02 is based. The court in *North American Container* recognized that the standard required to show a prosecution disclaimer (i.e., surrender through argument during prosecution) was necessarily high. In particular, the court pointed to the decision in *Omega Engineering, Inc. v. Raytek Corp.* (hereinafter "*Omega*") to exemplify the standard for showing prosecution disclaimer. See *North American Container*, 415 F.3d 1335, 75 USPQ2d 1545, 17 (Fed. Cir. 2005). In *Omega*, the court stated that "[t]o balance the importance of public notice and the right of patentees to seek broad patent coverage, we have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope," and that "[r]ather, we have required the alleged disavowing statements to be both so clear as to show reasonable clarity and deliberateness, . . . and so unmistakable as to be unambiguous evidence of disclaimer." *Omega*, 334 F.3d 1314, 1325 (Fed. Cir. 2003), (emphasis added). The court further stated that "[c]onsequently, for prosecution disclaimer to attach our precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable." *Id.* at 1325-1326. Based on these standards, it is clear that Applicant's arguments related to "an axle guard system, as taught by the present specification" are not clear and unmistakable statements made during prosecution that would lead one to believe that Applicant had disclaimed an axle

guard system as specifically defined by the last three lines of claim 1. There is no evidence to support that leap. Without such unambiguous evidence of prosecution disclaimer, the Examiner's allegation that the omission of the limitation of "at least about the width of one of said cleats" from claims 13, 21, 23, 25, and 30 represents improper recapture of subject matter surrendered in the application is both unwarranted and incorrect.

In view of the above, Applicant believes that the Examiner's rejection of claims 13, 21, 23, 25, and 30 under 35 U.S.C. §251 as being an improper recapture of broadened claimed subject matter surrendered in the application is improper. Accordingly, Applicant respectfully requests that the rejections of claims 13, 21, 23, 25, and 30 under 35 U.S.C. §251 be withdrawn.

Claims 23 and 25

In addition to the rejection to claims 23 and 25 under 35 U.S.C. §251 discussed above, the Examiner further rejected claims 23 and 25 under 35 U.S.C. §251, stating that "the limitation that the inner circumferential edge of the rim includes 'adjacent to one side of said body' has been deleted and replaced with the limitation of the inner edge - -being closer to said body than said outer circumferential edge- - which was part of patented original claim 14." *Office Action*, supra at 3. The Examiner argued that "[d]uring prosecution of the original patent this limitation was added to claim 14 and argued as defining over the references of record," and thus "[c]laims 23 and 25 have been broadened by deleting these limitations, and therefore improperly recapture subject matter surrendered in the application of the original patent." *Id.*

While Applicant does not necessarily agree with the Examiner's assessment of the arguments/amendments presented during prosecution of the '507 Patent, Applicant has nonetheless elected to amend claims 23 and 25 to reincorporate the allegedly surrendered subject matter. Specifically, each of claims 23 and 25 have been amended herein to call for, in part, "a rim mounted around the outer circumference of said hub, said rim having a face, an inner circumferential edge adjacent to one side of said body, and an outer circumferential edge." *See claims 23 and 25*, (emphasis added). With these amendments, along with the arguments made above with respect to the rejections of claims 13, 21, 23, 25, and 30, Applicant believes that the rejection to claims 23 and 25 under 35 U.S.C. §251 should be withdrawn. Therefore, Applicant believes that claims 23 and 25 are in condition for allowance.

Claim 30

Regarding claim 30, the Examiner again rejected the claim under 35 U.S.C. §251, stating that “claim 30 was broadened to exclude subject matter that was surrendered in the original application.” *Office Action*, supra at 4. Specifically, the Examiner argued that the Remarks filed by Applicant with the amendments of August 7, 1997 and December 19, 1997 showed that the amended limitations of “compaction cleats” and “compaction wheel” in claims 1 and 14, and the addition of the term “transversely spaced across” after the word “spaced” in claim 6, now pertains to surrendered subject matter in the original application. While Applicant again does not necessarily agree with the Examiner’s rejection, claim 30 has nonetheless been amended to read as follows:

A wheel assembly for a compacting machine having a frame and a pair of axle assemblies mounted to the frame, comprising:

a compaction wheel mountable for rotation on each of an opposing end of at least one of the axle assembly, said compaction wheels being positioned on opposite sides of the frame, each of said compaction wheels defining an inner periphery adjacent the frame and an outer periphery:

a plurality of compaction cleats disposed circumferentially about and transversely spaced across each of the compaction wheels, said compaction cleats extending outwardly from the compaction wheels a preselected distance and being disposed in a plurality of axially spaced rows with the outermost of said rows being positioned adjacent the outer periphery of each compaction wheel and the innermost of said rows being spaced from the inner periphery a preselected distance.

See claim 30, (emphasis added). With the above amendments, the allegedly surrendered subject matter of “compaction cleats”, “compaction wheel”, and the limitation of “transversely spaced across” has been incorporated into claim 30. As such, in view of these amendments, and further in view of the arguments set forth above with respect to claims 13, 21, 23, 25, and 30, claim 30 can no longer be said to be broadened to exclude subject matter that was surrendered in the original application. Accordingly, Applicant requests that the rejection of claim 30 under 35 U.S.C. §251 be withdrawn.

Newly Added ClaimsClaims 32 and 33

Claims 32 and 33 have been newly added by Applicant to further define the invention. Claim 32 calls for each and every limitation of allowable claim 1, but the limitation of a “cleat-free area” found in claim 1 has been amended to further call for “an area free of the plurality of compactor wheel cleats.” *See claim 32.* As this claim does not broaden the scope of previously allowed claim 1 and does not recapture any allegedly surrendered subject matter, Applicant believes that claim 32 is in condition for allowance.

Claim 33 calls for each and every limitation of originally allowed claim 6. However, claim 33 further calls for, in part, “a plurality of compactor wheel cleats circumferentially spaced on, transversely spaced across, and mounted to the face of said rim in an orientation that is substantially parallel to the axle of the compaction machine.” *See claim 33, (emphasis added).* Furthermore, claim 33 also calls for, in part, “an axle guard system comprising an area free of the plurality of compactor wheel cleats.” *Id., (emphasis added).* As claim 33 does not broaden the scope of previously allowed claim 6 and does not attempt to recapture any allegedly surrendered subject matter, Applicant believes that claim 33 is in condition for allowance.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-23, 25, and 29-33.

Considering that this reissue application has been pending for more than nine (9) years, Applicant would *very much appreciate* the Examiner’s prompt consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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General Authorization and Extension of Time

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2623. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2623. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2623. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 50-2623.

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APPENDIX A

Marked-Up Claims

1. (Original) A compactor wheel mountable on an axle of a compaction machine, said compactor wheel comprising:
 - a hub mountable to an axle of a compaction machine;
 - a rim mounted around the outer circumference of said hub, said rim having a face and an inner circumferential edge and an outer circumferential edge;
 - a plurality of compaction cleats circumferentially spaced on, transversely spaced across and mounted to said face of said rim; and
 - an axle guard system comprising a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge at least about the width of one of said cleats.
2. (Original) The compactor wheel as set forth in claim 1, wherein said axle guard system further comprises at least one circumferential barrier mounted on said cleat-free area so as to extend above said face.
3. (Original) The compactor wheel as set forth in claim 2, wherein said at least one circumferential barrier is mounted on said cleat-free area so as to extend radially outward from said face.
4. (Original) The compactor wheel as set forth in claim 2, wherein said at least one circumferential barrier is mounted on said cleat-free area adjacent said inner circumferential edge of said rim.
5. (Original) The compactor wheel as set forth in claim 2, wherein each of said cleats has a height, and said at least one circumferential barrier extends above said face a height greater than the height of said cleats.

6. (Amended) A compactor wheel mountable on an axle of a compaction machine having a body suitable for compacting refuse, said compactor wheel comprising:
- a hub mountable to an axle of a compaction machine;
 - a rim mounted around the outer circumference of said hub, said rim having a face and an inner circumferential edge and an outer circumferential edge;
 - a plurality of compactor wheel cleats circumferentially spaced on, transversely spaced across, and mounted to the face of said rim in a given orientation; and
 - an axle guard system comprising at least one circumferential barrier extending above said face and adjacent said inner circumferential edge of said rim absent any of the cleats in the given orientation, wherein said compactor wheel is suitable for supporting the body of a compaction machine.
7. (Original) The compactor wheel as set forth in claim 6, wherein said at least one circumferential barrier extends radially outward from said face.
8. (Original) The compactor wheel as set forth in claim 6, wherein said at least one circumferential barrier comprises a ring-shaped wall.
9. (Original) The compactor wheel as set forth in claim 6, wherein said at least one circumferential barrier comprises a plurality of circumferentially spaced fins.
10. (Original) The compactor wheel as set forth in claim 9, wherein said compactor wheel has an inner row of said cleats mounted adjacent to said inner circumferential edge, one of said fins is mounted to said rim between each pair of adjacent cleats forming said row.
11. (Original) The compactor wheel as set forth in claim 10, wherein said at least one circumferential barrier includes buttressing structure for support.
12. (Original) The compactor wheel as set forth in claim 11, wherein said buttressing structure is a broadening of said at least one circumferential barrier at said face of said rim.

13. (Amended) The compactor wheel as set forth in claim 6, wherein said axle guard system further comprises a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge [at least about the width of one of said cleats], said at least one circumferential barrier being mounted on said cleat-free area.

14. (Amended) A compaction machine comprising:
 a body suitable for compacting refuse, said body having opposite sides;
 an axle having two ends and mounting said body; and
 a compactor wheel mounted on each end of said axle, one compactor wheel on each side of said body, each said compactor wheel comprising:
 a hub mounted to one end of said axle,
 a rim mounted around the outer circumference of said hub, said rim having a face, an inner circumferential edge adjacent to one side of said body and an outer circumferential edge,
 a plurality of cleats circumferentially spaced on and mounted to said face of said rim, and
 an axle guard system comprising ~~at least one~~ a circumferential barrier extending above said face and adjacent said inner circumferential edge of said rim, wherein the circumferential barrier has an outer circumferential edge that is consistently perpendicular to the axle.

15. (Amended) The ~~compactor wheel~~ compaction machine as set forth in claim 14, wherein said at least one circumferential barrier comprises a ring-shaped wall.

16. (Amended) The ~~compactor wheel~~ compaction machine as set forth in claim 14, wherein said at least one circumferential barrier comprises a plurality of circumferentially spaced fins.

17. (Amended) The ~~compactor wheel~~ compaction machine as set forth in claim 16, wherein said compactor wheel has an inner row of said cleats mounted adjacent to said inner circumferential edge, one of said fins is mounted to said rim between each pair of adjacent cleats forming said row.

18. (Amended) The ~~compactor wheel~~ compaction machine as set forth in claim 17, wherein said at least one circumferential barrier includes buttressing structure for support.

19. (Amended) The ~~compactor wheel~~ compaction machine as set forth in claim 18, wherein said buttressing structure is a broadening of said at least one circumferential barrier at said face of said rim.

20. (Amended) The ~~compactor wheel~~ compaction machine as set forth in claim 14, wherein said axle guard system further comprises a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge a distance, said at least one circumferential barrier being mounted on said cleat-free area.

21. (Amended) A compactor wheel mountable on an axle of a compaction machine, said compactor wheel comprising:

a hub mountable to an axle of a compaction machine having a body;

a rim mounted around the outer circumference of said hub, said rim having a face and an inner circumferential edge and an outer circumferential edge, said hub being mountable to the axle of the compaction machine so that said outer circumferential edge faces away from the body of the compaction machine;

a plurality of compaction cleats circumferentially spaced on, transversely spaced across and mounted to said face of said rim; and

an axle guard system comprising a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge.

22. (Amended) The compactor wheel as set forth in claim 21, wherein said cleat-free area extends widthwise from said inner edge across said rim toward said outer edge up to about 10 inches.

23. (Twice Amended) A compaction machine comprising:

a body suitable for compacting refuse, said body having opposite sides;

an axle having two ends and mounting said body; and
a compactor wheel mounted on each end of said axle, one compactor wheel on each side of said body, said compactor wheel comprising:
a hub mountable to said axle;
a rim mounted around the outer circumference of said hub, said rim having a face ~~and, an inner circumferential edge adjacent to one side of said body, and an outer circumferential edge, said inner circumferential edge being closer to said body than said outer circumferential edge;~~
a plurality of tooth-shaped compaction cleats circumferentially spaced on, transversely spaced across and mounted to said face of said rim; and
an axle guard system comprising a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge a distance to reduce refuse accumulation about the axle of the compaction machine.

24. (Canceled)

25. (Twice Amended) A compaction machine comprising:
a body suitable for compacting refuse, said body having opposite sides;
two axles, each axle having two ends and mounting said body; and
a compactor wheel mounted on each end of each of said axles, each said compactor wheel comprising:
a hub mountable to said axle;
a rim mounted around the outer circumference of said hub, said rim having a face ~~and, an inner circumferential edge adjacent to one said of said body, and an outer circumferential edge, said hub being mounted on said axle so that said inner circumferential edge is closer to said body than said outer circumferential edge;~~
a plurality of compaction cleats circumferentially spaced on, transversely spaced across and mounted to said face of said rim; and
an axle guard system comprising a cleat-free area formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge for reducing movement of cable, ropes, or wire refuse inward toward said inner circumferential edge of said rim.

26-28. (Canceled)

29. (Amended) The compaction machine as set forth in claim 23, wherein said cleat-free area extends widthwise from said inner edge across said rim toward said outer edge up to about 10 inches.

30. (Twice Amended) A wheel assembly for a compacting machine having a frame and a pair of axle assemblies mounted to the frame, comprising:

a ~~[cylindrical drum]~~ compaction wheel mountable for rotation on each of an opposing end of at least one of the axle assembly, said ~~[cylindrical drums]~~ compaction wheels being positioned on opposite sides of the frame, each of said ~~[cylindrical drums]~~ compaction wheels defining an inner periphery adjacent the frame and an outer periphery:

a plurality of ~~[teeth]~~ compaction cleats disposed circumferentially about and transversely spaced across each of the ~~[cylindrical drums]~~ compaction wheels, said ~~[teeth]~~ compaction cleats extending outwardly from the ~~[cylindrical drums]~~ compaction wheels a preselected distance and being disposed in a plurality of axially spaced rows with the outermost of said rows being positioned adjacent the outer periphery of each ~~[cylindrical drum]~~ compaction wheel and the innermost of said rows being spaced from the inner periphery a preselected distance.

31. (Twice Amended) The wheel assembly as set forth in claim 30 wherein an upstanding flange is connected to the inner periphery of each ~~[cylindrical drum]~~ compaction wheel and extends radially outwardly therefrom a preselected distance.

32. (New) A compactor wheel mountable on an axle of a compaction machine, said compactor wheel comprising:

a hub mountable to an axle of a compaction machine;

a rim mounted around the outer circumference of said hub, said rim having a face and an inner circumferential edge and an outer circumferential edge;

a plurality of compaction cleats circumferentially spaced on, transversely spaced across and mounted to said face of said rim in an orientation that is substantially parallel to the axle of the compaction machine; and

an axle guard system comprising an area free of the plurality of compactor wheel cleats formed circumferentially around said rim on said face and extending widthwise from said inner edge across said rim toward said outer edge at least about the width of one of said cleats.

33. (New) A compactor wheel mountable on an axle of a compaction machine having a body suitable for compacting refuse, said compactor wheel comprising:

a hub mountable to an axle of a compaction machine;

a rim mounted around the outer circumference of said hub, said rim having a face and an inner circumferential edge and an outer circumferential edge;

a plurality of compactor wheel cleats circumferentially spaced on, transversely spaced across, and mounted to the face of said rim in an orientation that is substantially parallel to the axle of the compaction machine; and

an axle guard system comprising an area free of the plurality of compactor wheel cleats and at least one circumferential barrier extending above said face and adjacent said inner circumferential edge of said rim absent any of the cleats in the given orientation, wherein said compactor wheel is suitable for supporting the body of a compaction machine.